wall. Only one patient developed third degree AV block which required temporary pacing.

Conclusion: Early intervention if neccessary when the patient is in sinus rhythm. Adequate rate control by pharmacological means before subjecting the pts to PTMC. Optimizing the dose of digoxin so that it neither causes brady arrhythmia, at the same time preventing tachyarrhythmias. Every effort to be made to avoid low puncture, balloon slippage and inadvertent manipulation of guidewires and catheters. One must be ready to do pacing if warrented. Meticulous pre procedural evaluation, patient preparation and careful handling of hardwares will prevent arrhythmia related complications.

Redo percutaneous transvenous mitral commissurotomy procedural success and immediate results: A tertiary care single centre experience

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Background: After Percutaneous transvenous mitral commissurotomy (PTMC), symptomatic mitral valve restenosis develops in 4 to 39 % cases. The current study aims to identify demographic, clinical characteristics, echocardiographic parameters that may predict the successful result of redo PTMC in post-PTMC symptomatic mitral restenosis.

Methods: Single centre retrospective observational study of in hospital patients in last 5 years Successful PTMC was defined as MVA> 1.5 cm^2 without a postprocedural MR grade>2 using 2D Echocardiography.

Results: There were 324 patients (230 females, 94 males); mean age 33 (12 to 59 years). Median time interval from the initial procedure was 8.3 yrs (0.6 to 19 yrs).261 (80%) were in NYHA class II. 271(84%) were in sinus rhythm and 53(16%) in atrial fibrillation. Successful PTMC was seen in 251(77.5 %) patients. Mean Wilkin score was 9.9. There was a significant increase in the mean MVA from 1.0 to 1.6 cm^2, mean.RVSP decreased significantly from 52 to 36 mm Hg. Four patients developed severe MR and three underwent emergency MVR. 6 patients developed cardiac tamponade requiring pericardiocentesis and one had femoral artery thrombosis treated conservatively. There were no in-hospital deaths or systemic embolisation. Unsuccessful PTMC was seen in 73(22.5%) patients. These unsuccessful results were due to post procedure MR grade >2 in 4 patients (1.2%) and suboptimal secondary MVA <1.5 cm^2 in 69 patients (21.3%). Predictors of poor outcome were-Right ventricular dysfunction in 16, severe tricuspid regurgitation in 10,Wilkin scores with severe subvalvular fusion in 63 &high calcium score in 20 patients.

Conclusion: Redo PTMC in patients with mitral restenosis is feasible safe procedure with good success rate and optimal results with acceptable morbidity. In patients with low echo scores and no comorbid diseases, repeat PTMC should be the procedure of choice. For patients with more extensive valvular and subvalvular deformity, redo PTMC can be used as a palliative technique in these patients when they are at high risk of morbidity and mortality with MVR due to the presence of associated significant comorbid diseases.

NT pro BNP as a potential marker of left atrial dysfunction in rheumatic mitral stenosis and its correlation with improvement in left atrial functions post percutaneous balloon mitral volvotomy (PBMV) with intermediate term follow up of 1 year

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Background: Rheumatic heart disease is a common problem in developing countries. Plasma BNPlevels are affected in rheumatic heart disease, and can be correlated with disease severity.

Aims: To correlate levels of NT pro BNP with echocardiographic (including LA strain and strain rate (S/Sr) and hemodynamic parameters of LA functions and with improvement with PBMV with intermediate term follow up of 1 year.

Methods: 48 patients of severe MS undergoing PBMV were enrolled. All subjects underwent detailed history, physical examination. All the tests were done within 12 hours prior to PBMV and repeated 12 hours post PBMV, at 1 month and at 1 year. Transthoracic echo was performed using Vivid 7 echocardiographic unit (GE) Tissue Doppler Echocardiography derived S/Sr imaging were used for assessment of LA regional longitudinal function using apical 2- and 4-chamber views. Peak S/Sr were measured at each mid-LA segment (septal, lateral, anterior, and inferior) during ventricular systole (LAs) and at early (LAe) and late diastole (LAa). LAA contraction velocity was calculated using trans esophageal echocardiography and correlated with NT pro BNP levels. Invasively, cardiac output was calculated using **Swan-Ganz Standard Thermodilution Pulmonary Artery Catheter** and Vigilance II moniter. PCWP, pulmonary artery pressure and other cath data were correlated with NT pro BNP levels pre and post PBMV.

Results: Mean PrePBMV NTproBNP was 700 pg/ml. Mean level 1 day post PBMV was 425pg/ml, and after 1 month 300pg/ml($p<.05$). At 1 year the levels of NTproBNP were 50pgm/ml. S/Sr at each mid-LA segment (septal, lateral, anterior, and inferior) during ventricular systole (LAs), at early (LAe) and late diastole (LAa) were significantly lower in the patients than in the controls ($P < 0.0001$).. S/Sr values improved significantly ($p < 0.05$) in most segments at day 1 and at post PTMC 1 month. At 1 year these values showed more than 50% increase that was related significantly with NT pro BNP levels. , Also fall in mean pulmonary artery pressure, fall in PCWP and rise in cardiac output, all correlated significantly with NT pro BNP levels.

Conclusion: NT pro BNP levels correlate significantly with LA dysfunction and predict improvement in LA function post PBMV in Rheumatic mitral stenosis even at 1 year.

The correlation of NT-pro BNP with echocardiographic indices in the assessment of severity of MR

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Background: Mitral regurgitation (MR) causes progressive systolic and diastolic LV dysfunction and has negative impacts on the

prognosis of patients with MR. Accurate assessment of ventricular function and severity of MR using echocardiography alone may be difficult and bring us to diagnostic dead end. The use of echocardiographic indices and biomarkers in combination can provide an accurate assessment of MR severity and LV dysfunction. The aim of this study is to assess correlation of NT Pro BNP levels with echocardiographic indices in patients with MR.

Methods: The study population consisted of 50 patients diagnosed to have MR. Transthoracic, M mode,2-Dimensional and Doppler echocardiography performed using a Philips iE-33 machine. NT pro BNP levels were measured by using Roche CARDIAC Pro BNP test kit, Roche diagnostics limited, Germany and Cobas H 232 POC system.

Results: BNP levels in groups with mild, moderate and severe MR were 60 ± 6, 76±7.5, 78±6.6 pg/ml respectively (p=0.162). Myocardial performance index were 0.44±0.24, 0.42±0.23 & 0.53±0.28 in patients with mild, moderate and severe MR respectively. But there were no significant difference among three groups (p=0.404). BNP plasma levels were increased with symptoms in patients with MR (NYHA I:60 ±5,NYHA II:102±6.5, NYHA III:160±9pg/ml, p<0.001). BNP plasma levels were significantly correlated with MPI (p=0.004) and following echocardiographic indices, LVEDV (p<0.001), LVESV p<0.001), LVEDD (p<0.001), LVESD (p<0.001), LA dimension (p=0.004) and negative correlation with LV ejection fraction (p<0.001),but there were no significant correlations between BNP plasma level and MR volume (p=0.33), MR Vena contracta width (P=0.23), MR Effective Regurgitant Orifice Area (P=0.34) and LA volume (p=0.6)).

Conclusion: This study showed that BNP measurement has the same sensitivity and specificity as echocardiographic indices and may be used as a biomarker for the evaluation of patients with MR in combination with echo indices.

Predictors of rheumatic tricuspid involvement and concomitant tricuspid valve balloon dilation (TVBD) during balloon mitral valvotomy in rheumatic mitral stenosis –The PREToRIuS study

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Background: Tricuspid valve disease frequently accompanies rheumatic mitral valve disease.Organic tricuspid valve disease with concomitant TS and TR is also frequent, and uncorrected severe TR has been associated with adverse outcomes of both BMV and surgical mitral valve reconstruction/replacement.

Methods: We retrospectively analysed patients in our hospital who serially underwent concomitant balloon dilation of tricuspid valve along with BMV and sought to determine predictors of concomitant tricuspid valve disease requiring tricuspid valve intervention, and clinical characteristics of patients undergoing the same.Of the 12005 patients who underwent BMV at our institute,10916 (91%) had some affection of tricuspid valve ,with 4716 (38.3%)found to have at least moderate TR or more.26 patients (0.21%)have undergone simultaneous TVBD, with 3 patients having undergone the procedures twice. The decision to perform TVBD during BMV was made according to trans-tricuspid gradient measured as continuous wave signal across the "doming "tricuspid valve , and difference of RVedp and RA mean pressures by post BMV cath.The same Accura balloon that was used for BMV was used for the TVBD(sizes 24,26,28) by withdrawing it across the tricuspid valve.The balloon was dilated under fluoro guidance till the waist of the stenosis across TV disappeared. Between serial dilations, echo guidance was taken to assess result of previous dilation.

Results: Patients undergoing BMV who underwent concomitant tricuspid balloon dilation(Group A) for rheumatic TS were more likely to be female (n=21 of 26 patients(p< 0.001)),older(mean age: 30.5+/- 4.5 years), more likely to present with right-sided symptoms , more likely have undergone a past valve procedure(either BMV/CMV,n=12) and have longer duration of disease(mean duration: 11.4 +/-4.4 years,p< 0.001) than Group B patients.14 patients of the 26 (group A) had AF (p<0.001) and were on oral anticoagulation. Concomitant mitral involvement was seen 100% patients, and moderately advanced aortic valve disease (moderate AR, mild to moderate AS) also was significantly more in group A patients.

Pre-BMV trans-mitral gradients (due to the upstream TS, however were not statistically significantly different between groups A and B. The post procedural outcomes of the BMV with TVBD in group A also *did not reach* significantly different values as compared to those who underwent BMV alone. Though a satisfactory initial result of TVBD was obtained in all patients, most patients were referred for combined surgery in future due to advanced disease with mitral, aortic and tricuspid involvement.

Conclusions: Concomitant tricuspid involvement can be considered a frequent accompaniment of advanced rheumatic mitral disease, and concomitant TVBD during BMV can be safe and efficacious procedure with good immediate benefits but needing mitral and tricuspid valve surgery in future. Higher patient age, presence of AF and concomitant aortic disease probably are pointers towards advanced age of disease in these patients.

Immediate and in-hospital outcome of percutaneous transvenous mitral commissurotomy in patients with mitral restenosis after previous surgical commissurotomy

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Background: Rheumatic fever and rheumatic heart disease continue to be the major health problem in all developing countries including Bangladesh. Percutaneous Transvenous mitral Commissurotomy (PTMC) is an established non-surgical modality for the treatment of severe rheumatic mitral valve stenosis.The purpose of this study was to evaluate our immediate and in-hospital results of Percutaneous Transvenous Mitral Commissurotomy (PTMC) in patients with restenosis with previous mitral surgery(CMC).

Methods: The study group included 880 consecutive patients who underwent PTMC at the National Institute of cardiovascular Diseases (NICVD), Dhaka and Al –Helal Heart Institute, Mirpur, Euro-Bangla Heart Hospital, Lalmatia, Dhaka between May 2003 and December 2012. Safety, efficacy and in-hospital results of percutaneous transvenous mitral commissurotomy were analyzed in 800 patients underwent PTMC without previous CMC (group 1) and compared with 60 those of with previous CMC (group 2).